REMARKS

Claims 12-23 remain pending in this application. The amendments to the claims will be addressed in the rejections to which they are addressed.

We thank the examiner for acknowledging receipt of the claim for priority and priority documents, acceptance of the drawings, and consideration of the documents cited in the information disclosure statements.

Rejections: § 112, 2d paragraph

Claims 11, 13, 15, 21 and 22 have been rejected under 35 U.S.C. § 112, 2d paragraph as being indefinite. We understand that the reference to claim 11 was intended to address claim 12. Claims 12, 13 and 15 have been rejected because they contain various trademark/trade name designations for the UV meters and filters used in the recited process. The Examiner correctly points out that a trademark or trade name is used to identify a source of goods, and not the goods themselves. Accordingly, these claims have been amended to delete reference to trademarks and trade names, and to insert amendments that are characteristic of the elements and device used in the claimed process. These amendments are supported by the attached catalogues of UV-M03, UV-35 Filter and UV-25 Filter, which were obtained from the manufacturer ORC Manufacturing Co., Ltd.

Please note that the catalogue of "UV-M02" recited in the original claims is no longer available, but we note that the attached catalog of "UV-M03", a new model following UV-M02", describes the difference from "UV-M02". The catalog of "UV-M03" in the first paragraph describes, "UV-M03 is a UV illuminometer, in which the former UV-M02 is provided with an actinometer" (the line indicated by an upper arrow), and

"Tha same sensor attached to the UV-M02 can be used for a photodetector" (the first line indicated by a lower arrow).

The amendments to claims 12, 13 and 15 are supported by the technical catalogues identifying the elements and UV meter identified in the specification and claims and are permitted in accordance with the practice described in MPEP 608.01(v)(I). Accordingly, no new matter has been introduced by these amendments.

It is unclear why claim 22 was included in this rejection. Although dependent on claims 12 and 13, claim 22 was included in the statement of the rejection, whereas claims 16-19 were not. Since there does not appear to be a separate ground of rejection directed to claim 22, the examiner is requested to withdraw this rejection.

Claim 21 was rejected as being indefinite because of the recitation of "optical system." While it is respectfully submitted that a person skilled in this art would understand the meaning of this term in the context of the claimed invention, particularly where the system is recited to collect light between the light source and the photosensitive layer, this claim has been amended to replace the term "light source" with "a lens or a concave mirror." This text finds support in the specification as filed, in paragraph 0020, for example. Such an optical system may be used in an embodiment of this invention for increasing the illuminance of a low-intensity light source. Accordingly, this rejection should be withdrawn.

Rejection: § 102(b) - Ogata

Claims 12, 14, 15, 18 and 20 have been rejected under 35 U.S.C. § 102(b) as anticipated by Ogata (JP 2003-241397). The Office argues that Ogata discloses a method of manufacturing a seemless sleeve body for laser engravable printing that meets the limitations of this claim except for the recitation regarding the "illuminance of

light at a surface of the photosensitive resin composition." The examiner improperly dismisses this limitation because it allegedly does not add a positive limitation to the claim, AND it would be expected to be the same in the process of Ogata.

First, it is respectfully submitted that it is incorrect to simply dismiss the illuminance limitation as failing to add a positive limitation. The examiner has cited no authority for dismissing any limitation in these claims, and particularly a limitation in the claim that addresses a characteristic of the light applied to the photosensitive resin composition layer in an explicitly recited step in the claimed process. Anticipation is not appropriate unless the reference teaches each limitation of the claimed invention. MPEP 2131.

Secondly, although it appears that the examiner is also relying on the principle of inherency to meet the illuminance limitation in the present claims, the examiner has not provided any basis for concluding that the recited luminance limitations are necessarily present in the teachings of Ogata, as opposed to simply a possibility or even a probability. See MPEP 2112(IV). As noted in the present specification at paragraph 0014, for example, when a layer of photosensitive composition is cured under the condition that the luminance of light at the surface of the photosensitive resin composition layer satisfies the conditions specified in these claims, the hardness of the cured product can be easily lowered while maintaining the curability of the surface of the cured product. Moreover, the mechanical physical properties of the product can be improved.

Ogata does not address, and therefore cannot teach, the illuminance of light at the surface of the photosensitive resin composition layer - note that this limitation does

not address, at least not directly, the illuminance of the light source. Ogata does not show any appreciation of the relationship of this parameter of the claimed process and the curability of the surface or the hardness of the cured product. Accordingly, this rejection should be withdrawn.

Rejection: § 102(e) - Kannurpatti

Claims 12, 13, 22 and 23 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Kannurpatti et al. (US 2002/0213003). The Examiner's position is that Kannurpatti et al. discloses the process and printing element according to the claimed invention, but that the limitation regarding the "illuminance of light at the surface of the photosensitive composition layer" does not add a positive limitation to the claim and would be expected to be the same as the prior art. If it is assumed that the reference to Ogata in this rejection was a mistake, and that the examiner intended to refer to Kannurpatti et al.

Kannurpatti et al., like Ogata, does not appear to be particularly concerned about the "illuminance of light" limitations in these claims in the step that requires applying light to the surface of the photosensitive layer. For example, in paragraph 0031 of this published application, it is only suggested that the ultraviolet radiation source should furnish an effective amount of radiation, and that the exposure time will vary depending on a variety of variables. For essentially the same reasons advanced above with respect to Ogata, the illuminance limitation in the claim must be addressed and it is unclear how the examiner can reasonably conclude that these recited parameters could be inherent in the teachings of Kannurpatti et al. who fails to recognize any relationship between the illuminance of the applying light step and the curability, hardness and

mechanical physical properties of the cured product. In addition, this patent document is silent on the loss tangent limitation of claim 23.

In paragraph 0019 (page 25, lines 18-26) of the present specification, it is stated, "The light source intensity is not synonymous with the illuminance, and the illuminance of light reaching the surface of the photosensitive resin may be low even if a light source having a high intensity is used, and conversely, the illuminance of light reaching the surface of the photosensitive resin can be increased by collecting light even if a light source having a low intensity is used." From this description, it is clear in the present invention that the term "light intensity of the UV source" is distinct from the "illuminance at a surface of the photosensitive resin composition layer". Accordingly, as Kannurpatti et al. fails to teach each limitation of these claims, this rejection should be withdrawn.

Rejection: § 102(e) - Yokota et al.

Claims 12, 14, 16, 17, 19, 22 and 23 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Yokota et al. (U.S. Patent No. 7,029,825). The Examiner takes the position that Yokota et al. discloses a photosensitive resin layer for laser engraving that can be obtained by a process that meets the limitations of claim 12, for example, except the examiner appears to disregard the illuminance of light limitation as failing to add a positive limitation, and because it would be expected to be the same as Yokota et al. Again, applicants assume that the reference to Ogata was a mistake.

Although Yokota et al. does teach some of the same steps of the recited process, it is unconcerned with the specific conditions of the lighting step that is used to photocure the photosensitive layer. In the paragraph bridging columns 20 and 21 of Yokoto et al., it is suggested that a wide variety of light sources can be used for photocuring and relatively little guidance is given for the photocuring step. As noted

above, the illuminance limitations of the claims cannot be ignored, and the Examiner has not provided a proper foundation for concluding that these limitations are inherent in the teachings of Yokota et al. In addition, neither the Examiner nor Yokota et al. address the loss tangent limitation of claim 23. Accordingly, this rejection should be withdrawn.

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, L.L.P.

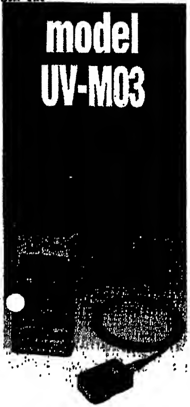
Dated: March 6, 2009

By: Charles E Van Horn

Charles E. Van Horn
Reg. No. 40,266
(202) 408-4000

Attachments: UV-M03, UV-35 Filter and UV-25 Filter Catalogues

CATALOG OF "UV-M03".



RS-232C通信機能を搭載した高性能タイプ!

紫外線光量計付照度計

UV-M03は、従来のUV-M02に光量計測機能を加えた紫外線照度計です。測定データをパソコンに取り込むための、一般に広く使用されているRS-232C通信機能を備えています。各種紫外線応用計測用途の要求にお応えして、紫外線照度及びに光量測定データを手軽にパソコンに転送して頂けるように設計されています。
受光器には、従来のUV-M02と同様のセンサーをご使用できますので、ワンタッチで着脱でき、受光器ごとの分光感度における照度値は、直読できるようになっています。

特　長

1. RS-232C通信機能を使って、紫外線光量・照度データを出力可能。
2. 照度モード時、照度値に応じて自動的に切換わるオートレンジ機能付。
3. 光量測定時には、浮動小数点表示機能により、広い範囲の光量測定に自動対応。
4. 照度測定モード選択時には、高感度測定レンジを選択可能 (0.0001mW/cm²)。
5. 電池使用時に、切り忘れを防止する、オートパワーオフ機能付。
6. ACアダプターを接続時、AC電源が入るとパワーがオンするオートパワーオン機能付。
7. 電源を切る前のスイッチ状態を記憶し、パワーオン時に自動復帰する設定メモリー付。
8. 小型ハンディタイプで手軽に測定可能。

用　途

産業応用： IC、LCD、PCB焼付装置の露光管理
UV硬化インキ、塗料、樹脂向の照度管理
食品・薬品製造工程の紫外線・殺菌線の照度管理
OA（複写・青焼）業界での露光・定着の管理
農業、化粧品（日焼）気象などにおける太陽光の紫外線照度管理
紫外線療法（乾癬治療、美容整形）

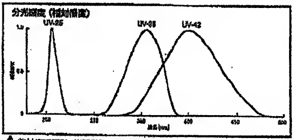
研究用途： 光工学・高分子分野の光反応実験
感光性樹脂等の光機能性材料の開発・研究
医学・生理学・細菌学分野の紫外線の作用研究
気象学・植物学における光の作用・光反応実験

仕　様

受光器

[illegible]	[illegible]	[illegible]	[illegible]
測定波長範囲[nm]	240～270	310～385	335～480
ピーク感度波長[nm]	254	360	405
寸　法[mm]	35 (W) ×18 (H) ×65 (D)		
受光素子	フォトダイオード		
使用温度範囲[℃]	0～60		

分光感度（相対感度）



本体

[illegible]	[illegible]
レンジ×0.1 レンジ×1 レンジ×10 レンジ×50 AUTO	照度 [mW/cm²]　光量 [mJ/cm²] 0.0001～1.0000　0.001～19999 0.001～1.000　0.001～19999 0.01～10.00　0.01～19999 0.1～50.0　0.1～19999 0.001～50.00
通信方式	RS-232C
記録計用出力 [mV/ﾌﾙｽｹｰﾙ]	DC1000mV/fs
使用温度範囲 [℃]	0～40
精　度 [%]	上記温度範囲にて弊社UV標準に対して（±1.0）
繰り返し精度 [%]	上記温度範囲にて±1.0以内
サンプルレート [回/s]	約2
電　源	乾電池（単3）2個　又はAC100～240V
消費電力 [mW]	約60（単3電池2個にて連続30時間）
寸　法 [mm]	71 (W) ×29 (H) ×161 (D)
重　量 [g]	210（電池除く）
付属品	UV-35センサー、受光器コード、ACアダプター レコーダーコード、電池、収納ケース、取扱説明書
オプション	UV-25、42センサー、RS-232Cコード 減光フィルター 1/10、1/20、1/50

⚠紫外線照度計、光量計取り扱いのご注意
ランプは輝度が高く紫外線を発生しています。目、皮膚に当てないで下さい。測定中は紫外線に直接皮膚、目等をさらさない様に保護具等を着用してください。
※改良などのため、予告なしに仕様の変更をすることがございますので、ご了承下さい。

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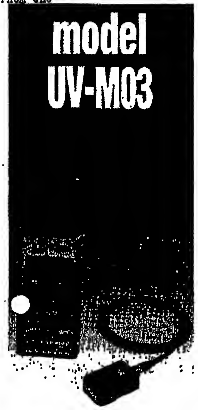
新潟出張所／〒950-0923 新潟市姥ヶ山4-15-1 レジデンス[illegible]ヶ丘B-212号
TEL (025)287-8066　FAX (025)287-6057

代理店

CATALOG OF "UV-M03".



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受光器には、従来のUV-M02と同様のセンサーをご使用できますので、ワンタッチで着脱でき、受光器ごとの分光感度における照度値は、直読できるようになっています。

特長

1. RS-232C通信機能を使って、紫外線光量・照度データを出力可能。
2. 照度モード時、照度値に応じて自動的に切換わるオートレンジ機能付。
3. 光量測定時には、浮動小数点表示機能により、広い範囲の光量測定に自動対応。
4. 照度測定モード選択時には、高感度測定レンジを選択可能 (0.0001mW/cm²)。
5. 電池使用時に、切り忘れを防止する、オートパワーオフ機能付。
6. ACアダプターを接続時、AC電源が入るとパワーがオンするオートパワーオン機能付。
7. 電源を切る前のスイッチ状態を記憶し、パワーオン時に自動復帰する設定メモリー付。
8. 小型ハンディタイプで手元に測定可能。

用途

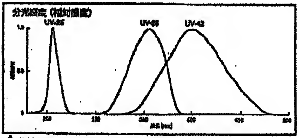
産業応用： IC、LCD、PCB焼付装置の露光管理
UV硬化インキ、塗料、樹脂向の照度管理
食品・薬品製造工程の紫外線・殺菌線の照度管理
OA（複写・青焼）業界での露光・定着の管理
農業、化粧品（日焼）気象などにおける太陽光の紫外線照度管理
紫外線療法（乾癬治療、美容整形）

研究用途： 光工学・高分子分野の光反応実験
感光性樹脂等の光機能性材料の開発・研究
医学・生理学・細菌学分野の紫外線の作用研究
気象学・植物学における光の作用・光反応実験

仕様

受光器

[illegible]	[illegible]	[illegible]	[illegible]
測定波長範囲[nm]	240~270	310~385	335~480
ピーク感度波長[nm]	254	360	405
寸法[mm]	35(W)×18(H)×85(D)		
受光素子	フォトダイオード		
使用温度範囲[℃]	0~60		



本体

[illegible]	[illegible]	
	照度 [mW/cm²]	光量 [mJ/cm²]
レンジ×0.1	0.0001~1.0000	0.001~19999
レンジ×1	0.001~1.000	0.001~19999
レンジ×10	0.01~10.00	0.01~19999
レンジ×50	0.1~500	0.1~19999
AUTO	0.001~50.00	
通信方式	RS-232C	
記録計用出力[mV/ｽｹｰﾙ]	DC1000mV/fs	
使用温度範囲[℃]	0~40	
精度[%]	上記温度範囲にて弊社UV標準に対して(±1.5)	
繰り返し精度[%]	上記温度範囲にて±1.5以内	
サンプルレート[回/秒]	約2	
電源	乾電池(単3)2個　又はAC100~240V	
消費電力[mW]	約60（単3乾電池2個にて連続30時間）	
寸法[mm]	71(W)×29(H)×151(D)	
重量[g]	210（電池除く）	
付属品	UV-35センサー、受光器コード、ACアダプター、レコーダーコード、電池、収納ケース、取扱説明書	
オプション	UV-25、42センサー、RS-232Cコード、減光フィルター・1/10、1/20、1/50	

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新潟出張所／〒950-0983 新潟市[illegible] レジデンス[illegible]
TEL (025)287-[illegible]　FAX (025)[illegible]

代理店

PRINTOUT OF WEBSITE OF
ORC Manufacturing Co., Ltd.

UV計測器 UV Measuring Equipment

UV illuminometer / actinometer UV-M03A
紫外線照度計・光量計UV-M03A

小型・軽量な、ハンディタイプ計測器です。紫外線ランプを搭載した装置を製造現場で管理する目的に適しています。紫外線ランプのUV照射量(照度・光量)管理にご使用ください。

See the attached translation of this portion.

◆ 特 徴 Characteristics

- 露光装置の照度と光量の管理が手軽にできる小型・軽量のハンディタイプです。
- 紫外線照度と光量が手軽に測定できます。
- 受光器は、ご使用されている(ご使用予定の)光源とレジスト等の感度にあわせてUV−25, 35, 42用をご選択いただきます。ただし電子回路(プリント)基板の製造工程でお使いの場合にはUV−SN25, UV−SN35, UV−SN42を、半導体、液晶用基板の製造工程でお使いの場合にはUV−SD25, UV−SD35, UV−SD42をご選択されるように推奨します
- 測定データは、RS-232C通信出力を介して転送できます。
- アナログ出力も備えています。

◆ SD型とSN型について

SN型は古くから当社製の露光装置や照射装置等をお使いいただいているお客様に広く採用されているもので、プロセス管理の継続性を確保しています。
SD型は半導体や液晶用基板の製造プロセスの現場で、すでに他社製の照度計をお使いのお客様が、それらの計測器とのデータの互換性確保を重視される場合(当社製の露光装置でも投影型露光装置や液晶基板用の周辺露光装置にはSD型が採用されています)や、全く新規に照度計などをお使いになられるお客様に推奨しています。

◆ SD型とSN型の指示値について

SN型は古くからのプロセスデータの互換性を確保するようにSD型の指示値(当社計測グループで校正用の放射源として使用している高圧水銀ランプの365nmの輝線を同一の測定条件で測定した時に示される照度の値: mW/cm^2 表示)に対して36%高く表示するように調整されています。

◆ 他社製照度計とのデータ互換性について

可視光用の照度計(家庭・事務所・店舗・美術館などの明るさをLUX単位で測る照度計)と違い、紫外線用の照度計の全てに適用される規格は未だ整えられていません(ごく一部の限定された用途でJIS化の作業は行われているようです)。
各社の相対分光感度は、同じ水銀灯の365nmの輝線を主体とした光源による照度を測定する目的で作られていても、測定のピーク波長(相対分光感度特性が1で示されている波長)を初めとして、短波長側(300nm〜310nm前後)と長波長側(380nm〜400nm前後)の立ち上り、立ち下りの波長とその前後の曲線が少しずつ異なっています。
またCOS θ特性と言われている受光器の持つ受光角特性も理想曲線に近づけようと、設計面で努力されていますが、中々実現されていないのが現実です。

Specification
◆ 仕 様

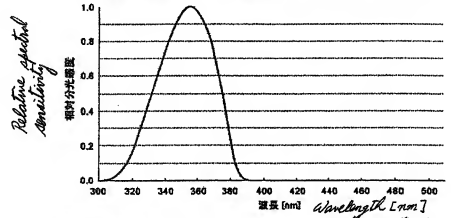
受光器(交換式)	UV-SD35 (UV−SN35)	← Photoreceiver (exchangeable)
測定波長領域	310〜385nm	← Region of wavelength for measurement

測定照度範囲	0.001～50mW/cm²
測定光量範囲	0.001～19999mJ/cm²
合わせ込み精度	当社UV標準器に対して±1.5%以内
繰り返し精度	±1.5%以内

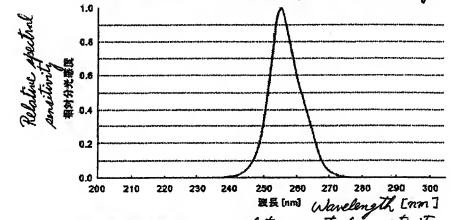
UV Measuring Equipment / Photoreceiver / Spectral sensitivity characteristic

◆ UV計測器 受光器 分光感度特性

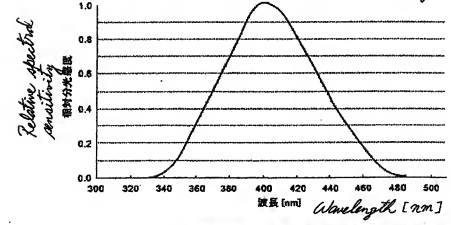
◆ UV-35相対分光感度 UV-35 relative spectral sensitivity



◆ UV-25相対分光感度 UV-25 relative spectral sensitivity



◆ UV-42相対分光感度 UV-42 relative spectral sensitivity



製品に関するお問合せはこちら

◆ 関連製品

- 紫外線光量計UV-351シリーズ
- 紫外線光量計UV-M10-P/Sシリーズ

▲ページトップ

PARTIAL TRANSLATION OF PRINTOUT OF WEBSITE OF ORC MANUFACTURING CO., LTD.

--A translation of the paragraph of "Characteristics" on page 1/3 of the printout of the website of ORC MANUFACTURING CO., LTD.--

"◆ Characteristics

· This product is a small-size and lightweight handy type by which the illuminance and light intensity from an exposure equipment can be easily controlled.

· Illuminance and light intensity can be easily measured.

· Photoreceivers can be chosen from those for UV-25, 35 and 42 depending on light source and sensitivity of resists (to be) used. It is recommended that UV-SN25, UV-SN35 and UV-SN42 be chosen for production process for electronic circuit (printed) boards, and UV-SD25, UV-SD35 and UV-SD42 for production process for semiconductors and boards for liquid crystals.

· Measurement data can be transferred through RS-232C communication output.

· Analogue output is applicable."

Other translations are directly written on the attached printout in handwriting. It is evident from UV relative spectral sensitivity on page 2/3 that the designations of UV-35, UV-25 and UV-42 represent the wavelength of a peak in the spectral sensitivity.